

FLOUR MILL AND GRAIN ELEVATOR OWNERS SHOULD REFER TO PAGE 44.

CHICAGO OFFICE,
40 La Salle Street.

MILWAUKEE OFFICE,
124 Grand Avenue.



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1888. CAWKER'S 1888. • AMERICAN FLOUR MILL AND ELEVATOR DIRECTORY •

* FOR 1888.*

Is now IN PRESS, and will be issued about February 15, 1888. This Directory will be more complete than any of the five preceding ones. Our long experience has taught us the wants of the trade, and we have used our best endeavors to meet them. The principal features are as follows:

- 1.—List of Flour Mill owners of the United States and Dominion of Canada, with Post Office address, County and State, and when information is obtained, the capacity in barrels of flour per day of 24 hours, kind of power used (steam or water), roller or stone system.
- 2.—List of Corn, Oatmeal, Rice, Rye and Buckwheat Mills.
- 3.—List of Grain Elevators and Warehouses.
- 4.—List of Millwrights.
- 5.—List of prominent American Flour and Grain Brokers.
- 6.—List of Foreign Flour and Grain Importers.
- 7.—List of Mill Furnishers, etc.
- 8.—Statistics valuable to the Trade.
- 9.—Millers whom we believe to be worth Ten Thousand Dollars or more will be indicated.

Price of Directory, \$10 per copy, post paid to any address.

If desired Directory will be sent by express C. O. D. Remit by Exchange on New York, Chicago or Milwaukee, or Post Office Money Order. Address,

E. HARRISON CAWKER, PUBLISHER, MILWAUKEE, WIS.

GANZ & CO., Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]



The "HOPEWELL" TURBINE

Water Wheel

IS THE BEST.

For full particulars address

A. J. HOPEWELL,

EDINBURG, VA.

Improved + Walsh + Double + Turbine



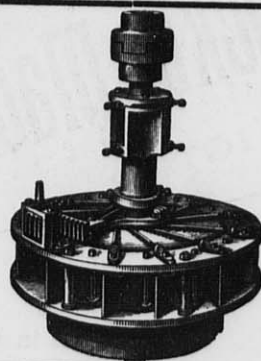
This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

Phoenix Iron Works,
Sheboygan Falls, Wis.



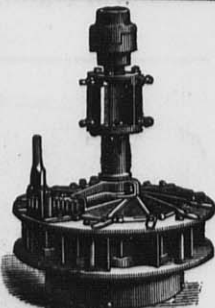
JAMES LEFFEL'S IMPROVED WATER WHEEL,

Fine New Pamphlet for 1887.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]



POOLE & HUNT'S Leffel Turbine Water Wheel

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.
[Mention this paper when you write to us.]



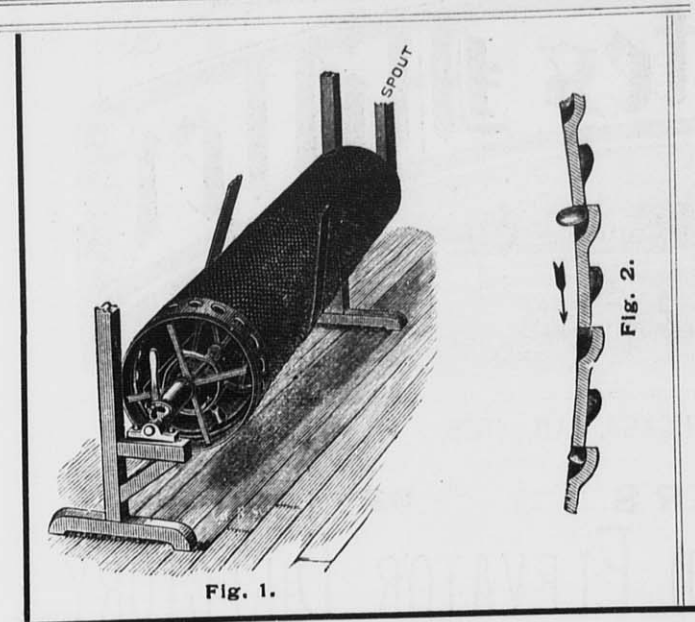
THEY ARE THE BEST MADE.

372 and 374 EAST WATER STREET,
MILWAUKEE.

131 EAST THIRD STREET,
ST. PAUL.

201 NICOLLET AVENUE,
MINNEAPOLIS.

"GOLD SEAL" RUBBER BELTING,
OAK TANNED LEATHER BELTING.



CUT herewith, FIG. 1, represents the PRINZ COCKLE MACHINE, single reel, without frame. FIG. 2, shows a section of the Indented Cylinder, and FIG. 3 is a large machine with grading reel. The inventor and manufacturer of this machine has had long and thorough experience in all departments of Grain Cleaning, and this Cockle Separator certainly has no superior. It is equally adapted to use in large or small mills, and the price is within the reach of all. The manufacturer has demonstrated that his machine removes more Cockle than other machines. It occupies but little space, and consequently any mill will have room enough in which to place it.

CONSTRUCTION.

The machine consists of a cylinder about 70 in. long and 16 in. diameter, mounted on a stationary shaft 82 in. long, which has to be supported at both ends—(either as seen in the cut, or it can be hung up under the ceiling or in any other suitable position.) Inside of the cylinder is a trough suspended on springs and agitated by the revolution of the cylinder itself, to receive the cockle which is carried up by the indentations of the cylinder and properly discharged into this trough. By the agitating motion of this trough the cockle is discharged at the front end of the cylinder. The wheat is entered at the end of the reel, and is rolling at the lower side of the same in the direction of the discharge, and by this rolling the cockle finds its way into the indentations and gets raised up and discharged into the trough. There is nothing complicated in the machine, consequently nothing can get out of order to make trouble and annoyance. It has only two bearings to oil, and if oiled once a day is all it needs, as it is running only at a speed of 18 revolutions.

The machine is entirely controlled by the operator, by a single lever seen at the front of the cut (Fig. 1), and it can be set either to take out any quantity of cockle, or if there is none in the wheat, it can be set to take out nothing. There is no machine in the market that has this device. The indentations are of a new design and protected by U. S. Letters Patent granted to F. PRINZ. This enables the manufacturer to indent sheet iron or steel plates, which are far superior in ensuring the durability of the machine than zinc, of which material all other cockle machines are now made. The machine is driven by simply taking a two-inch belt around the reel at any point. The Single Reel Machine (Fig. 1), has a capacity up to 20 bushels per hour. Cockle Cylinders are ALL made of the SAME SIZE and where greater capacity is required it is secured by a grading reel (patented by F. PRINZ), and guaranteed not to clog as other devices do, which separates the COARSE grains of wheat, from the SMALL wheat and cockle, and the latter (small wheat and cockle) will only go to the Cockle Cylinder for complete removal of the cockle. The Grading Reels are built of the proper size to furnish separated wheat and cockle for feeding one, two or more cylinders. All parts of this machine are very easily accessible, NOT ONE INSIDE ANOTHER and in a substantial frame, NO FAST MOTION, and very little power needed.

ALSO EXCLUSIVE MANUFACTURERS OF

Prinz's Patent Improved Smutter, and Prinz's Patent Combined Dustless Oats and Screenings Separator.

FAUSTIN PRINZ,
659 East Water St., Milwaukee, Wis

New Pat. Indentations. No More Zinc, but Iron and Steel Reels, Lasting Many Times as Long.

* PATENT

PRINZ'S

Improved Cockle Machine

THE VICTOR.

* SLOW MOTION. *

* LITTLE POWER. *

PATENT *

READ THE FOLLOWING TESTIMONIALS.

"CENTENNIAL MILLS," EVANSVILLE, Ind., June 14, 1877.
FAUSTIN PRINZ & CO., MILWAUKEE, WIS.
GENTLEMEN:—Inclosed please find check in payment of Cockle Machine sent us May 26, 1887. The Machine does its duty.
Yours truly, J. W. LAUBSCHER & BRO.

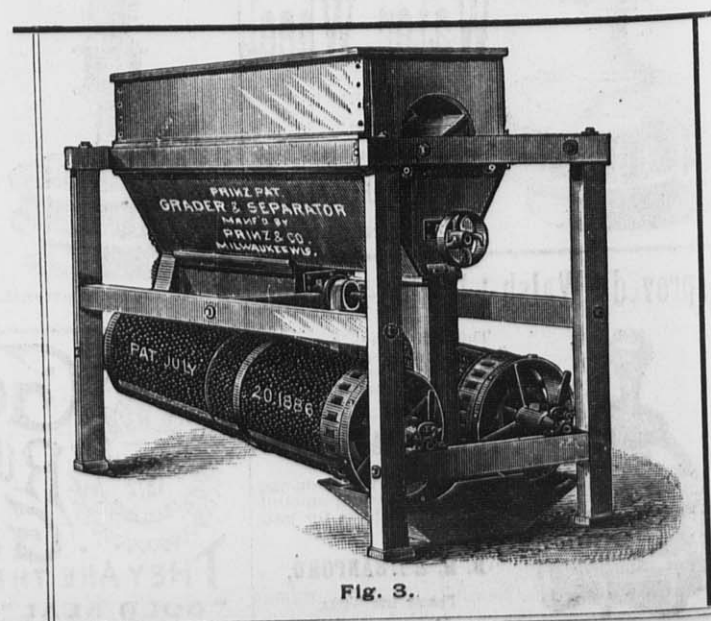
Office of "PHOENIX FLOURING MILLS," WAUKESHA, WIS., March 17, 1887.
F. PRINZ, Esq.:
DEAR SIR:—Yours of the 16th inst. at hand. In reply to inquiries as to how we like your combined Separator and Cockle Machine, which we have now had running nearly a year, I can only say it is the boss. It displaced a well-known combined machine, and although yours was only guaranteed to do as much work as the one it displaced, I am glad to say it does THREE TIMES AS MUCH, and does it in first-class style. The old machine blew almost one-third of the scorplings into the dust-room, while from yours we cannot find a kernel. The Oat Separator is as perfect as I have seen; the cockle it removes without wasting whole kernels of wheat; the suction is in perfect control of the miller; and last, though not least, it uses only half as much power as the machine it displaced. You are at liberty to use this recommendation, and if any brother millers wish to see the machine in operation, we shall be pleased to show them. Wishing you all possible success, I remain,
Yours respectfully, CHARLES G. DEISSNER.

Office of GALESBURG ROLLER MILLS, GALESBURG, MICH., Nov. 17, 1887.
FAUSTIN PRINZ & CO., 659, 661 and 663 East Water St., Milwaukee, Wis.
DEAR SIR:—The Cockle Machine arrived in good condition. I could not procure a millwright, but the connections of your machine are so complete. I went to it myself and put it in and had it running in less than four hours. I have no hesitation in saying that your Cockle Machine is the best that I ever handled, being entirely under control of the miller; it does all you claimed and more; it not only removes all the cockle, but scours the wheat and removes the dust to my utmost satisfaction. I consider it a mile for space and a monster for the work it accomplishes. I displaced a rolling screen for your machine and assure you it is a profitable change.
Yours respectfully, M. W. MORTON.

Office of GEM MILLING COMPANY, Milwaukee, Wis.
Mr. F. PRINZ:
We have used your No. 3 Combined Grader and Cockle Machine two months and are much pleased with its work. The objectionable features of our former machine, which required constant attention, owing to Grader sieve becoming clogged and allowing cockle, seed, etc., to pass over with the wheat, are ENTIRELY OBLIATED in your machine, the work being always uniform, owing to Grader reel keeping perfectly clean, consequently all seeds, cockle, etc. must enter Cockle cylinders which removes them in a thorough manner, taking out very little broken wheat. We can use one or two cylinders as condition of wheat requires, and with cut-off arrangement on Grader reel almost perfect separations can be made. Requires very little power and space, and we think a much more durable machine than we formerly used.
Yours truly, GEM MILLING CO. J. ZAHN, Supt.

RELIANCE MILLS, Milwaukee, Dec. 19th, 1887.
MESSRS. F. PRINZ & CO., City.
GENTS:—The Grader and Cockle Machine you put in our mill three months ago in place of the Kurth Cockle Machine, has given the best of satisfaction, as our wheat is unusually full of cockle. wild buckwheat and seed this year, is entirely cleaned from same by your machine without any loss of wheat. Respectfully yours, C. MANEGOLD & SON.

Unequaled in Capacity and Simplicity. One Reel will Handle 16 to 20 Bushels per Hour.



The United States Miller



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KANSAS CITY BOARD OF TRADE BUILDING, 1887.

The illustration above gives a very good view of the new Board of Trade Building erected in Kansas City during the year past, at a cost of over \$700,000. It is one of the finest exchange buildings in the United States, and speaks volumes for the business push and energy of the commercial men of Kansas City, which evidently is to the Southwest what the twin cities, Minneapolis and St. Paul, are to the Northwest. In a letter received January 6, 1888, from Mr. W. H. Miller, Secretary of the Exchange, he gives the following grain receipts for 1887: wheat, 932,860 bushels; corn, 3,813,377 bushels; oats,

2,295,217 bushels; rye, 36,309 bushels; Barley, 279,100 bushels. Hon. E. H. Allen is President of the Exchange.

[From *The British Baker, Confectioner and Purveyor*, London, January 2, 1888.]

A CASE OF AMERICAN FLOUR SHORTAGE.

By W. A. THOMS.

To many readers the term "shortage" will not be quite clear, although it is, to a certain extent, self-explanatory. Here it means either a loss in count, say 95 or 98 sacks of flour received for 100 ordered and paid, or a deficiency in weight of flour in any or all of

the sacks. Deficient weight is the most common cause, loss in count can be easily traced back and adjusted. The light weight may be due to various causes: to thin, weak sacks that tear or burst when handled without affection, and part of the flour is lost, or from theft in transit, or from being weighed short at the mill. From whatever cause it arises, shortage is a sore subject between U. S. export millers and flour importers, and with the increase of export millers and the persistent use of thin cheese-clothsacks, shortage claims were never more numerous than now, and their tendency is to increase. As a rule,

such claims on honest and honorable millers are promptly and satisfactorily settled, but there is coming to the front of late a new order of U. S. flour importers—of the genus “tramp,” and family “Ah Sin”—from whom the suffering importer can obtain no satisfaction, not infrequently insult instead of settlement of a claim however well attested and just. I may be permitted to explain that “tramp” exporters are flour jobbers and millers of small reputation and no established agents for the sale of their flours on this side, who secure orders by offering flour below its market value, and recoup themselves by short weights, or lowering grades below samples; who will put any brand on the sacks asked by a buyer, but will not add their own names or the names of their mills. This shyness to advertise themselves on their sacks enables them to slide off from importer to importer, and repeat their game of intake. So far as I know, the importers keep no black list of such traders, and circulate it for mutual defence, but seem to prefer silence to publishing that they have been sold. But there is evidence to prove that some of them are not sold. The writer has been told by an export American miller of established reputation that he has been asked by British importers to weigh short, and to that extent cut the price. There is other evidence leading to the conclusion that there are such importers, who pass on the “tramp” short-weight flour to the baker, and “chance the ducks;” and the chance of the baker detecting the shortage is slight, as so very few of them weigh flour when received. It is the honest importers who are sold, who give credit notes to bakers for shortage along with the invoice of the flour, and then try, and fail, to recover from the American exporter. The following are facts of a case which, to all appearance, seems to be of a shady character, but I leave my readers to form their own opinions and content myself with simply stating the facts as they occurred. I have no wish to involve others in the remotest chance of proceedings for libel, and so refrain from making any imputations on anyone's character. For this reason, also, I do not give the correct name and address of the miller and firm of flour importers referred to:

In September last I bought from a well-known Scotch firm of flour importers, whose names, as I have said, are not essential to this narrative, but whom I will call Messrs. A. & Z., a quantity of flour branded, say, “Starlight,” for delivery on arrival. It was bought from sample at a very reasonable price, and I could learn no more about it than that it was a Milwaukee patent from spring wheat. The flour arrived at Glasgow in October, by the Allan Line, when a part of my purchase was sent on to Alyth. As the brand was a strange one, I examined it well on delivery. The quality was equal to sample, and the sacks, though weak and thin, were sound; but I could find no trace of the name of the miller or mill on them. This excited my suspicion, and a number of the sacks were weighed, and all were found short weight. Before I had time to inform Messrs. A. & Z. about this they sent me a credit note for an average shortage of fully three pounds to the sack of 280 lbs. As this allowance fully covered the shortage found, I did not write to them, but called at their offices shortly after to pay for the flour.

I found only Mr. A. present, and asked him in an innocent way, to explain his credit note for shortage. His explanation, in effect, was this: They had received, by the Allan Line, 1000 sacks (of 140 lbs.) of “Starlight,” which, on being weighted from the ship by the weigh-master there, were found 464 sacks under weight, the total shortage 1587 lbs. As these light sacks were not marked to distinguish them, Messrs. A. & Z. reckoned an average underweight of fully one and one-half pounds for each of the 1000 half-sacks, and issued credit notes to that amount to all who had received the flour. Mr. A. showed me a certified list of the shortage in each of the 464 sacks from the office of the Allan Shipping Co. I have it before me now while writing, and find 63 of these sacks weighed 138 lbs. each; 250 sacks weighed 137 lbs. each; 122 sacks weighed 136 lbs. each; 10 sacks weighed 135 lbs. each, and 19 sacks varied from 121 lbs. to 139 lbs. each. These figures and the condition of the sacks which I had examined, showing no loss of flour from being torn or opened, and flour stolen in transit, aroused suspicion that this was possibly a deliberate case of underweighing at the mill, and I said so to Mr. A., and asked him to give me the facts of the case for public allusion thereto. This he declined to do, remarking that he was convinced, although the case looked suspicious, the miller was an honest man, and would explain it satisfactorily, and settle the claim for shortage. My laugh must have been tinged with incredulity, for then he asked me, with an indignant gesture, “Do you mean to say that the miller is a scoundrel?”

“Well, if you put it that way, I simply say everyone is entitled to his own private opinion.” As Mr. A. told me he had written the miller, enclosing claim for shortage, and expecting an answer shortly, I said I would delay any public allusion to the case until the answer arrived, and I was informed of its tenor. About two weeks ago, Messrs. A. & Z. wrote to me: “We are inclined to reconsider the opinion our Mr. A. expressed to you regarding the miller of ‘Starlight’ patent. Although we have issued credit notes to every customer who had the flour without receiving any complaints—as to short weight—the miller declines to settle our claim. We do not mean to have any further correspondence with him.” The names of the miller and the mill not given. This seemed to me to settle the matter too easily, and I wrote Messrs. A. & Z. saying so, asking the miller's name, in order to protect honest importers and bakers. In answer they sent me full particulars of the case, and the appended letter from the miller declining to entertain their, what I call, most just and honest claim for shortage.

Copy of letter from “Ah Sin,” Meadow Mills, Milwaukee:

“Milwaukee, Novbr. 10th, 1887.

“Messrs. ————,

“DEAR SIRS,—I received to-day your favour of 29th ult, enclosing specified weights of 464 bags, and bill for short weight. I return both, as I cannot entertain at all the claim. If I could not have felt quite certain that there could not have been any shortage from the mill, I would be convinced now by your report that there are packages of 19, 17, 14, 12, 8, 6, 4 lbs short. Where and how the shortage originated is beyond my means of knowing, but this is sure: if I should be made responsible for such claims, I would quit entirely exporting flour; fortunately, yours

is only the second claim of this nature—both of Glasgow. My other correspondents in Glasgow are well pleased with our weight and flour. . . .—Your resp'y,
“AH SIN.”

The sacks weighing 19, 17, 14, 12, 8, and 6 lbs. short the Meadow miller refers to, as convincing him the shortage did not originate at his mill, number only 12 in all, out of 464 short weight, and were undoubtedly torn or burst sacks from which flour had escaped. The figures I give prove 10 sacks 5 lbs. short, 122 sacks 4 lbs. short, 250 sacks 3 lbs. short, and 63 sacks 2 lbs. short. It was not the 12 packages showing big shortages, but the other 452 packages, and their sound condition while short of weight that make the affair so suspicious. The total shortage I gave as 1587 lbs., that is by reckoning the weight of the half-sack as 140 lbs. in Glasgow, but if the sacks are weighted 140 lbs. at the mill in America they should weigh not less than 141 lbs. in Glasgow ex-ship. Here it is the exception for me to find half-sacks of U. S. flour weighing under 141½ lbs. So that the shortage on these bags would seem not to have been less than 2000 lbs. at the mill. A word, in conclusion, to “tramp” millers and flour jobbers. Gents, all, no thanks are due me for this effort to advertise you. To me it is a labor of love, and you can bet your boots or bottom dollars that I'll be delighted to repeat it as often as I find it necessary. Moral to my craft brothers: Avoid flour unbranded by the names of its miller and mill, or, if you will have it, look closely to the grade and weight of each sack. If you still get taken in, please don't blame this self-elected watch-dog for not barking.

[We hope to be able to publish the reply of the Milwaukee Miller in our February number.
EDITOR U. S. MILLER.]

[Translated from the *Berliner Mueller-Zeitung* for the UNITED STATES MILLER.]

CHEMICAL EXAMINATION OF FLOURS.

This is really not the work of the miller, nor the merchant, but should be done by well-educated scientific chemists, as is commonly the case in France, where science and industry go hand in hand and mutually aid each other. By an examination so conducted, the limits of water, starch, gluten and ashes are determined.

The water contents of flour is easily ascertained by drying out, a small quantity in an air-bath at a temperature of 110° or 120° C. The dryest flour contains six per cent. of water, while in others it will be found to contain as much as 25 per cent.

The determination of starch and gluten are produced by the separation of the former from the latter, by tying the flour in a small linen bag and kneading it under water, until the gluten has formed itself into a mass. If the flour is of poor quality, it will not unite for a long period. In the water in which the flour is thus kneaded, the starch will be found, and it will, in a very little time, settle at the bottom. Cerealin and Casein, both nourishing, nitrogenous parts are lost entirely in the examination, as they quickly dissolve in the water. The secured gluten and the settled starch are weighed together, and so the quantity is ascertained. To determine the gluten, Bolin and Robins, both of Paris, have invented an ingenious instrument, called an “Aleurometer,” by which a baking process is gone through and the quantity easily

ascertained. The ashes are determined by burning a certain quantity, which is afterwards weighed, and may reach from 1.5 to 2.2 per cent., but if more, adulteration by mineral substances may be suspected, and must be traced by chemical analysis. But there are also practical examinations, which are of equal importance to the miller and baker, especially chemicals for improving the general appearance and for adulteration. Experienced men are of course the most accurate judges of the feeling, the appearance and the color of flours but it not infrequently happens that even they are compelled to use a microscope.

A principal defect in flour, and one which is difficult to detect, is the flowing of the dough when it does not rise, but spreads itself on the sides. The cause of this may be attributable to the presence of too much wild garlic, or it may be the wheat was burned, or the land on which it grew was overspread with sheep manure. A famous expert, Mr. Oser, of Krems, in "Niederösterreich," suggests an original idea, viz: take 16 grammes of flour from every exhibitor and knead these singly in 8 grammes of water.

The stiffest dough will prove the best and the slackest, inferior. So far as baking flour is concerned, it ought not to be too fine, for fine flour will bake harder, being much less vaporous.

Good flour should be of a yellowish color, and it requires much practical experience to discriminate between the inferior and superior grades. To test the mixtures of flour with rye flour, potato flour, etc., the Pekar flour tester is the most reliable. It is patented, and can only be used in a mill on payment of a yearly royalty of 1 Kr. per 100 kg. Microscopical examinations also show adulterations, and for this test it requires 300 to 400 magnifying power. The particles of rye flour are larger than those of wheat or barley, but the difference in the size is not remarkable. This examination is therefore not reliable, more especially, as by it only the quality and not the quantity can be obtained. It is much easier to detect the addition of oats, millet, rice or maize, as the starch particles of these are much more apparent. The maize starch is the largest of all, and is therefore the more easily observed. The outer husk of millet flour is ground largely along with it. The rice flour is altogether clear of husks or shells, because these shell with the gluten husk, and therefore the contents of gluten is very small. The starch kernels are angular and the color of the flour is a beautiful white. Oat flour always contains bran, as the husks cannot altogether be removed. In many vicinities oats are seldom ground to flour. Adulterated wheat flour is mixed with rye, barley or rice flour, especially with the latter, as the price of it is in America at least very reasonable. Flour mixed with flour made from beans or peas is known by the elliptical shape of the starch particles. Adulterations of this by mineral stuffs is immediately detected by the microscope, as a grey formless mass will be seen among the starch particles.

NEWS.

The *Tradesman* of January, 1888, published at Chattanooga, Tenn., published a list of new industries of all kinds established in the Southern states during the year 1887, from

which we have compiled the following concerning the flouring industry in the South for the benefit of our readers:

ALABAMA—Anniston City Land Co., Anniston, new mill; Birmingham Flour Mill Co., organized, Birmingham; Barrett, Denton & Co., Decatur, new mill; W. W. Fulgum, Decatur, new mill; T. W. Williams & Co., Huntsville, new mill; A. H. Moses & Co., Sheffield, new mill; F. H. Grace, Sheffield, new mill; S. M. Jemison, Talladega, new mill.

ARKANSAS—Webb & Brown, new mill, Eureka Springs; Jas. W. Hart, new mill, Eureka Springs; G. W. Davis & Co., new mill, Pine Bluff.

FLORIDA—S. W. Spier, grist mill, Orlando.

GEORGIA—Taylor Bros., enlarging, Athens; Clark Flour Mill Co., enlarging, Augusta; Kennesaw Mill Co., enlarging, Marietta; R. C. Humber, new mill, Milledgeville; J. H. Ranne, new mill, Savannah; J. M. Watson & Co., new mill, Tallapoosa.

KENTUCKY—J. G. Straub, new mill, Louisville; Davenport & Bransford, new mill, Owensboro.

LOUISIANA—Stewart & Rickert, rice mill, New Orleans, Southern Rice Mill Co., New Orleans.

MISSISSIPPI—C. R. Wood, new mill, Columbus.

NORTH CAROLINA—H. T. Collins, new mill, Asheville; D. A. Tompkins & Co., new mill, Charlotte; Carson Bros., enlarging, Charlotte; Piedmont Mill Co., organized, Charlotte; Styron Bros., new mill, Fayetteville; S. S. Brown & Co., new mill, Greensboro; R. W. Cowan, new mill, Salisbury.

SOUTH CAROLINA—R. Rhodes & Co., enlarging mill, Charleston; Huguenot Mill Co., enlarging, Greenville.

TENNESSEE—S. M. Elliott, new mill, Bristol; Bristol Land & Imp. Co., new mill, Bristol; D. S. Godsey, enlarging, Bristol; Twin City Mill Co., organized, Bristol; A. J. Berryhill, new mill, Cleveland; W. J. Mansfield, enlarging, Cleveland; John Ashton, enlarging, Cleveland; Allen & Kieth, new mill, Dayton; H. H. Clark, new mill, Johnson City; City Mill Co., new elevator, Knoxville; S. E. Williams, enlarging, Lebanon; Falcon Roller Mill Co., organized, McMinnville; M. City Mills Co., new mill, Maryville; W. T. Hackney, new mill, Maryville; L. D. Saunders, Maryville, Mossy Creek; Morristown Mill Co., Morristown; Merritt Mill Co., chartered, Morristown; S. P. City Co., new mill, South Pittsburg; Raht Bros., new mill, Tullahoma.

TEXAS—W. H. Huffman, new mill, Ft. Worth; G. M. McSpadding, new mill, Greenville; Farmers' Alliance Co., new mill, Sherman; Texas Alliance Mfg. Co., new mill, Denison; Farmers' Alliance Co., new mill, Dallas.

VIRGINIA—Mathews & Wright and Thomas, Patterson & Co., enlarging mills, Liberty; Gallego Flour Mill Co., enlarging mill, Richmond; Witz & Holt, enlarging mill, Staunton.

The Cyclone grain elevator, the invention of Lyman Smith, is at Buffalo, and is now ready for business. Mr. Smith claims that his elevator, as now improved, will easily handle from 300 to 400 bushels of grain per minute.

The Manitoba eastern wheat movement is seriously effected by a shortage, or rather blockade of freight cars on the C. P. R. R.

SEC'Y MILLS, of the Illinois State Board of Agriculture, thinks that the Illinois winter wheat crop for 1888 will be a small one.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., last month shipped two carloads of Gilbert Flour Dressers, Superlative Purifiers and spiral conveyor to Atlanta, Ga., to go into Zachary Bros.' mill, which Stout, Mills & Temple are building.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., have just shipped several hundred feet of their spiral conveyor to Sullivan & Ehlers, Albany, N. Y.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., have just shipped a lot of machinery, consisting of Gilbert Flour Dressers, Bran Dusters and Superlative Purifiers to W. Babcock, Sibley, Ia.

The Superlative Purifier Mfg. Co. of Milwaukee, Wis., have lately shipped four of their Purifiers to C. T. Hanna, Pittsburgh, Pa.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., have just shipped a lot of machinery, consisting of Superlative Purifiers, Gilbert Flour Dressers, Bran Dusters, iron work and belting, to Phillips & Bruce, Pleasant Hill, Neb.

BURNED, Dec. 22, Clem & Wegner's 200 bbl. roller mill at Harrisonburg, Va. Loss, \$35,000. No insurance.

REMOVED—F. C. Ireland & Son, from La Chute Mills to Toronto, Ont.

CHANGED NAME—Geo. H. Colton to Geo. H. Colton & Co., Lisbon, Dak.

The following are the latest reported losses from the Rochester mill disaster: J. G. Davis & Son, loss above insurance, \$30,000; J. A. Hinds & Co., loss over insurance, \$30,000; Joseph H. Poole, loss over insurance, \$50,000.

OMAHA Milling Co.'s 400 bbl. mill at Omaha, Neb., will soon be ready to start up.

BURNED—Brady Bros.' mill at Gainesville, Tex.

The Eagle Mills Co., Parkersburg, W. Va., has put its business in the hands of a receiver to be adjusted.

DEAD—Jacob Grossenbacher, Highland, Ill.

ASSIGNED—Henry Osborn, owner of a large flour mill near Ann Arbor, Mich., made an assignment Jan. 8. Assets above book accounts are placed at \$16,000, with \$10,000 liabilities.

ASSIGNED—H. Bromall, miller at Doe Run, Pa.

MESSRS. RICHTER & HOLT, Carthage, Ind., have just completely refitted and refurnished their water power flour mill, and it has now a capacity of 100 bbls. per day.

BURNED, Jan. 2, J. W. Howe's flour and saw mill, at St. Hilaire, Minn. Loss \$15,000. Insurance \$6,500.

DULUTH is now the happy possessor of ten banking institutions, with a combined capital of over \$2,000,000.

BURNED—F. M. Watt's flour mill at Cooperstown, Tenn.

BURNED, Dec. 30, Hoover's flour mill and warehouse at Pickering, Ont.

EDWARD CORBETT has taken in Mr. Arthur S. Norrish as a partner, and this firm of milling engineers will hereafter be known as Corbett & Norrish, No. 3346 M street, West Washington, D. C.

ABOUT 400,000 barrels of flour were produced during 1887 by mills in Chicago.

BURNED, Jan. 5, the warehouse and stables of the Banner Milling Co., Buffalo, N. Y. Loss \$11,000. Insured. The mill will start up again in a week or two.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., last month shipped four carloads of their machinery, consisting of Cockle Separators, Morgan Scourer, Gilbert Flour Dressers, Superlative Purifiers, Centrifugal Aspirator, Spiral Conveyor, etc., to the Forest City Mill Co., Forest City, Dak.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., have just shipped two of their largest size Gilbert Flour Dressers to Wm. Listman, LaCrosse, Wis.

The Cockle Separator Mfg. Co. of Milwaukee, Wis., have just shipped a lot of spiral conveyor and pulleys to Plummer & Finch, of Augusta, Wis.

WILKINSON & SMITH, of Ida Grove, Ia., are receiving numerous letters testifying to the good qualities of their flour. Their mill is equipped with a full line of Gilbert Flour Dressers, Superlative Purifiers, Morgan Scourer, Kurth Cockle Separator and Spiral Conveyor, furnished by the Cockle Separator Mfg. Co. of Milwaukee, Wis.

J. W. PARKS, of Balsam Lake, Wis., has just put in two Gilbert Flour Dressers, furnished by the Cockle Separator Mfg. Co. of Milwaukee, Wis. Joe Van Buskirk, of Sheandoah, Ia., has also put in one of the same machines.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

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MILWAUKEE & CHICAGO, JAN., 1888.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MINNEAPOLIS mills manufactured 6,553,000 barrels of flour during 1887, of which a little over one-third was exported.

THE Nebraska Millers' Association will meet at Lincoln, Neb., Jan. 19, at 4 P. M. D. H. Harris, of Bennet, Neb., is Secretary of the Association.

IN a letter just received from Charles N. Bell, Esq., secretary of the Winnipeg Board of Trade, he says: "Fully 12,000,000 bushels of wheat will be exported."

WE have received the initial number of the *Merchant, Miller and Manufacturer*, of St. Louis, Mo. It presents a good appearance and we hope will fill that "aching void" with which the millers have been so long afflicted.

THE production of flour by Milwaukee millers in 1887 was 1,251,145 barrels, against 952,802 in 1886—an increase of 298,343 barrels. The gain was due to the increased demand on European as well as on domestic account.

THE flour traffic over the new "Soo Line" from Minneapolis was opened Jan. 7, 1888, by the starting out of five flour trains, consisting of 103 car loads, 20,600 barrels of flour, destined for Boston, New York and Philadelphia.

MESSRS. F. PRINZ & Co., No. 659 East Water street, Milwaukee, manufacturers of Prinz Cockle Machines, Smutters, Separators, etc., report a lively business. During the past month they have sold several large machines and have had a big run on small machines for small mills.

ON New Years eve the Geo. T. Smith Middlings Purifier Co., Jackson, Mich., gave a banquet to the officers, salesmen and invited guests at the Hibbard House. It was a royal feast, and an occasion long to be remembered by all present. We trust that the year 1888 will prove to be a successful one for the Company.

SECRETARY FRANK LITTLE, of the Michigan Millers' Association, has issued the call

for the annual meeting of that body, to be held at the Morton House, Grand Rapids, Mich., Feb. 8, 1888. All Michigan millers are earnestly invited to come and join the Association, and if not able to come to send \$5.00 for annual membership fee. It would probably be interesting for the Association when it meets to discuss the manner in which the funds formerly on hand were appropriated, and to determine whether they had a right to dispose of them as they did. The subject has been one of open criticism by members of the National Association.

THE milling men in the vicinity of Appleton, Wis., held a meeting at Appleton, Jan. 16, and organized the Fox River Valley Millers' Association. S. R. Wiley, of Appleton, was elected president, and E. J. Lackman, of Neenah, secretary. Representatives were present from Green Bay, Depere, Kaukauna and Neenah. Committees were appointed to report at an adjourned meeting to be held at Appleton, Jan. 23. The object of the association is to promote harmony among flouring interests in the Fox River Valley, and to make united effort toward securing freight rates to Northern and Southern markets proportionately as low as Minneapolis mills to allow of competition with Minneapolis in those districts.

CAWKER'S AMERICAN FLOUR MILL AND GRAIN ELEVATOR DIRECTORY FOR 1888 is now in course of preparation and will be ready for delivery in February, 1888. The publisher (E. Harrison Cawker, No. 124 Grand avenue, Milwaukee, Wis.,) desires all flour mill owners to send him their correct name and postoffice address, with the capacity in barrels of flour per day of 24 hours and to state whether they use steam or water power or both, or rolls or millstones or both. Elevator owners are desired to send elevator capacity and number of elevators owned by the firm. Full replies will be of benefit to the entire trade.

JOHN CROSBY DEAD.

John Crosby, president of the National Millers' Association, and active manager and senior member of the great milling firm of Washburn, Crosby & Co., died at 3 o'clock A. M., Dec. 29, 1887, from paralysis of the heart. Mr. Crosby was 59 years old. He came to Minneapolis in 1871 from Maine, in which state he had been engaged in the paper manufacturing business. He was a relation by marriage of W. D. Washburn, and through the latter entered into partnership with the late Gov. C. C. Washburn in the milling business. He had had no previous experience in the business, but applied himself to its details and gained a thorough knowledge of them. He was personally exceedingly popular, his bluff, hearty manner winning him many friends. He was always a power in the Millers' Association, being its president at the time of his death. He leaves a widow—his second wife—a sister of F. S. Gilson, owner of the Nicollet House, Minneapolis, two sons and a daughter.

THE Dominion Government, as is well known, have been for a long while endeavoring to determine whether it is possible to find an outlet from the vast wheat area of the Canadian Northwest to Liverpool by way of

Hudson Bay and Strait—an outlet which would bring Manitoba as near to Liverpool as Ohio is; but thus far it has met with but little success. Parties of observation have been sent out and spent two seasons in that region, but they report that the Straits are not navigable for more than four months in the year at most, that they may be closed ten months out of the twelve, that at best the route is beset with such dangers as shifting ice-fields, and that vessels of special construction would be required for the service which would be unprofitable elsewhere when the route was closed. Nevertheless, we see it stated that the Dominion Government have been offered a suitable vessel for another expedition, the Government to pay the expenses, and that the offer will be accepted. At best it looks like "a wild goose chase;" still, there is nothing like perseverance.—*N. Y. Commercial Bulletin.*

THE *Northwestern Miller* recently published "An Open Letter to the Millers' National Association," which, as its publisher evidently expected, would attract the attention and criticism or praise of the milling press in particular, and a certain portion of the trade in general. The *Northwestern Miller* has scored its point, and got a liberal dose of valuable advertising at a minimum of expense. Minimum we say advisedly for the reason that the "Open Letter" does not contain one single original or new idea that has not time and again been discussed by members of the Millers' National Association, both in and out of regular sessions, and within the hearing, we believe, of the publisher of the *Northwestern Miller*. The real reason why the Association has not accomplished more than it has of practical benefit to its members, we think, is because it is so extremely difficult to get committees of capable men to neglect their own business for the benefit of the whole trade without a very valuable consideration. For instance, it is entirely feasible to establish a bureau to look after the export trade, providing a fund is available to employ reliable men to watch the interests of the exporter from the time his flour is loaded into the cars at his mill door until laid down at its final destination abroad, and to prevent injury to his property at any time or place, if possible, and if not, be able to place the liability where it justly belongs. Every barrel of flour exported from this country is a benefit to every miller in this country, no matter where he is located or whether his mill is great or small. Our export trade in flour is one of the most important matters to be looked after, and if the Association fails to look after that interest they make a grievous mistake. This very subject has been discussed for years, but no thoroughly effective result has yet been reached. In too many cases has the American flour exporter been at the mercy of his foreign consignee. If the "Open Letter" of the *Northwestern Miller*, or the agitation of the subject by the milling press, or the work of individuals or all combined, succeed in actually carrying out any ideas of general interest and real benefit to the milling industry, a great point will have been gained. Great plans for this end cannot, we honestly believe, be successfully accomplished otherwise than through the Millers' National Association, for (let its most ardent critics say what

they will to the contrary) that body has gained a *prestige* which no other body of millers ever have or will obtain within certainly a decade of years. It is a recognized body, and as such has a great influence. Its usefulness has been aided more or less in the past by every milling paper in this country, and in our judgment it is silly for papers to try now to pull down what they have helped to build up. We think the Association culpable under the circumstances for selecting any one milling paper and dubbing it their "official organ," and we have not hesitated to say so in very blunt terms, but we do not see for all that why the whole business should be damned for one error.

THE Smith Feed Water Heater and Purifier Co. is the name of a new manufacturing company in Milwaukee.

THE elevator capacity of the Province of Manitoba, Oct. 1, 1887, was about 1,600,000 bushels.

E. R. BLAKE, grain dealer of Pt. Washington, Wis., has had judgment for \$15,000 entered against him. The Ozaukee County Bank of same place is closed and in the hands of a receiver.

ROLLS, reels, buhrs and purifiers of the best quality and run by the best millers cannot make white and speckless flour, unless the cleaning machines are in the proper proportion and used in the proper way. No matter how much effort may be expended, it is impossible to whiten flour that contains reduced fuzz and other impurities on the outside and in the crease of the wheat grain. Look out for the agent who offers to sell you machines to whiten flour and who says that the preliminary cleaning of the grain is of little or no consequence.

PROFESSOR BROWN, of the Ontario Agricultural College, at Guelph, Canada, recently summed up the usefulness of bran to farmers as follows, after having carefully considered its chemical composition: 1. Bran is a concentrated food which, though variable in composition, possesses high nutritive value. 2. Roller-process bran is on the average richer than old-process bran. 3. Its excess of ash or mineral matters fits it for bone-building in growing animals and for supplementing the lack of mineral matters in roots. 4. Its chemical composition points to the conclusion that it is somewhat better adapted to the formation of fat and production of heat than to the formation of muscle or milk. 5. Both its chemical composition and its physical form adapt it admirably as a supplementary food to be used in connection with poor and bulky fodder as straw and roots.

MILLING AGAIN "REVOLUTIONIZED."

Millers who detest change and "revolution" and who love peace and fixity will be agitated to learn that, once more, a sweeping "revolution" is to overtake their industry. This time the disturber is the well-known William F. Cochrane, whom millers have cause to remember as the chief in long and expensive litigation over milling machines. Mr. Cochrane, according to the *Canadian Manufacturer*, now has a cock-sure thing and is already a prospective millionaire. That journal sets forth his prospectus as follows: The W.F. Cochrane Roller Mills Supply Company, whose head offices are at Hamilton, Ont., are building a

large factory at Dundas, Ont., for the manufacture of the Cochrane Patent Roller Mill Machinery, the tools for the same being now in course of construction at the Canada Tool Works of Messrs. John Bertram & Sons, Dundas. Mr. W. F. Cochrane, the inventor of the process here alluded to, has a mill in operation in Peterboro', Ont., where the product of Manitoba spring wheat is about 93 per cent. clear bright flour. The mill is what is known as a 100-barrel mill, that is, its output with ordinary roller machinery was 100 barrels of flour per day, but with the Cochrane Process it is producing flour at a higher rate than 200 barrels per day. Among the greater advantages claimed for the process are that the mill can be driven with a third less power and can do twice as much work with the same number of rolls as by the ordinary process. In a 120-barrel mill it takes only one 6½-inch belt to drive it, whereas the present system requires fourteen 6½-inch belts, with all attendant pulleys, shafts, tighteners, bridging and gears. What it required 56 pulleys to do, 3 now accomplish. Three feet of shafting in this mill do the work of 58 feet in other mills. The second advantage is that, while it saves a large amount in motive power, it increases the capacity of the mill to nearly twice its former capacity, even with using the old rolls. The third advantage is its cheapness of construction. It can be built for one-half the cost that other roller process mills can be built for. The fourth advantage is that the belt tension, not being on alternate rolls, as in the old system, but on one pulley only, the rolls are kept in tram with perfect uniformity. This gives an even granulation, a higher proportion of middlings, more patent flour and greater profit to the miller. There is one more advantage. In other roller mills the feed-rolls and the speed-rolls are not uniform. Thus if a belt slips and the speed-rolls slacken in speed, the feed rolls still continue pouring down the usual quantity. The consequence is that the speed-roll is over-burdened, the succeeding rolls are given too much work, and a large part of the flour goes to enrich the bran bin. In this mill the slightest variation, so much as one revolution, occurring in the speed-roll, is transmitted to the feed-roll instantly. Last week a delegation of the Toledo, Ohio, Business Men's Association visited Peterboro' for the purpose of inspecting the machinery in operation there and witnessing its working the result being that Mr. Cochrane has sold out his right of manufacturing in the United States to a Company composed chiefly of gentlemen in Toledo for \$200,000 of paid up stock, the capital stock being fixed at \$400,000. Mr. Cochrane states that a mill with seven double sets of rolls and all necessary driving machinery ready for operation can be built at a cost not exceeding \$1,100, while other mills cost about \$1,500. There are said to be some 18,000 or 20,000 flouring mills now in operation in the United States which will be compelled to adopt this system or be forced out of business. As we have before stated, a company has been formed to manufacture this machinery in Canada. Mr. Cochrane reserves to himself the patent right to the process in Great Britain, France, Germany and Russia, in which countries he is now applying for patents. He is a Scotchman by birth, a lawyer by profession, a mechanical genius by instinct, and a resident of Washington, D.C., United States.—*Milling World* (Buffalo).

OFFICIAL REPORT OF THE PROCEEDINGS OF THE EXECUTIVE COMMITTEE OF THE MILLERS' NATIONAL ASSOCIATION, AT CHICAGO, JAN. 19-20, 1888.

CHICAGO, Jan. 20.—In accordance with a call issued by direction of the chairman, a meeting of the executive committee was held at the Grand Pacific Hotel, Chicago, Jan. 19th, 1888. The meeting was called for the purpose of arranging plans for the next annual convention, to be held in Buffalo, as decided at the meeting in St. Louis, May last, and further to consider any and all matters that might be presented for their action looking toward a correction of the abuses at present existing in and pertaining to the flour trade, both domestic and foreign, and any other business that might be considered to the interest and welfare of the milling industry generally. The first subject taken up was in relation to the next annual convention, but the correspondence thus far in relation thereto not having furnished sufficient information for the committee to take any final action, it was

Resolved, That the chairman and secretary be and are hereby instructed and empowered to enter into the necessary correspondence with interested parties to fix the date and mark out the details for holding the convention, and report such progress as they are able to make to the next meeting of the committee.

The convention being for the present disposed of, the next thing in order for consideration was

THE ABUSES NOW EXISTING IN THE DOMESTIC FLOUR ORDER TRADE, and if possible to suggest some method whereby they can be remedied; that abuses exist is patent to all. Their remedy must take time, united action and wisdom. Your committee believing that the necessary wisdom may be gleaned from a multitude of counsel, adopted the following as the more direct and speedy method for securing the necessary information required to carry out the plans of the committee as hereinafter noted:

Resolved, That the secretary is hereby instructed to correspond by circular letter, or otherwise, with the main milling points for the purpose of securing all the information possible on the subject, with the view of devising ways and means for overcoming the present abuses in the domestic flour order trade regarding packages, selling terms, etc., and to that end the committee suggest the following interrogatories to be sent out for replies:

1st, BARRELS—In your opinion would flat-hooped barrels answer the requirements of your trade? Would the economy in their use warrant you in adopting them, and would you adopt them if your competitors or other milling centers did the same?

2d, SACKS—Is it your opinion that sacks can be more generally used in place of barrels? If so, would you be willing to co-operate and aid in extending their adoption in place of barrels—by millers generally, if your competitors would do the same?

3d, PACKAGES—Would you approve the proposition for general adoption not to put up flour for the trade in packages weighing less than 24 lbs.?

4th, PACKAGES—Would you agree to adopt the custom of the Missouri millers (which is also the statute law of Missouri), regulating the fractional parts of a barrel of flour to weigh 24, 48 and 96 lbs.?

5th, PRICES—Do you approve of a difference being made in the price of flour per barrel by the car load, and in lots of less than a car load? If yes, state your views as to what the difference should be.

(Continued on Page 46.)

A SUCCESSFUL GRAIN SCOURER.

The illustration on this page represents the horizontal "Eureka" Close Scouring, Polishing and Separating Machine, built by the old established house of Howes & Ewell, Silver Creek, N. Y. This machine, like every other turned out by this firm, is remarkable for solidity of construction, excellence of material employed, and of workmanship displayed in fitting and finish, for the perfection of its operation upon the wheat submitted to it for treatment. The scouring case (built in sections and interchangeable without taking down the machine) is of cast iron, the inner surface, and the openings for exit of scourings and dirt, being hard chilled, thus assuring extreme durability. The beaters are adjustable, and approach the grain under treatment, at an angle. This construction possesses two features which the makers claim are of essential importance and advantage: 1st, liability of breaking grain is obviated; 2d, the grain is held, momentarily, in contact with the beaters, escapes therefrom by sliding and is thus scoured not only by contact with the scouring case but with the beaters. An improvement recently added renders it possible for millers to accurately gauge the degree of scouring action and adapts the machine for perfectly treating the softest as well as the hardest varieties of wheat. Eight regular sizes capable of handling from ten to two hundred bushels of wheat, per hour, are on the list of the makers who will take pleasure in answering the inquiries of our readers.

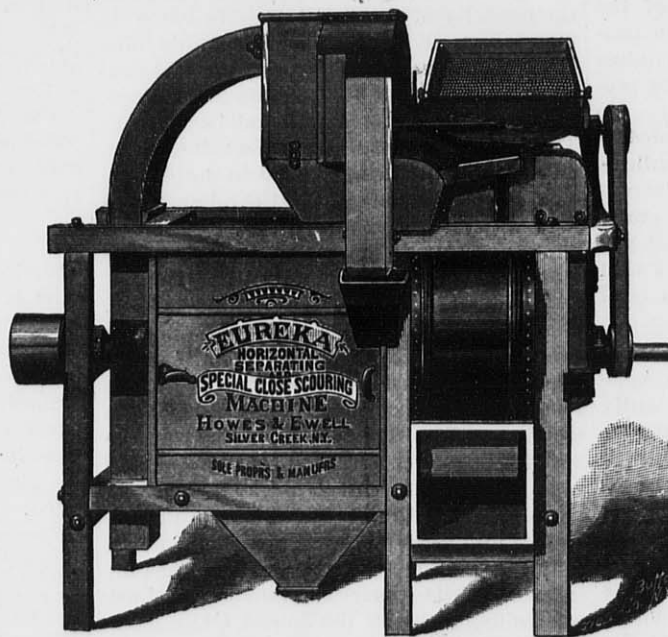
THE ILLINOIS STATE ASSOCIATION.

Secretary Seybt, of the Illinois Millers' State Association, furnishes us the following report of the annual convention of that organization: The Illinois Millers' State Association held its thirteenth annual convention at Springfield, Dec. 7. President Kreider was in the chair, and secretary Seybt read the minutes of the last meeting, which were approved. Only fourteen members answered the roll-call out of a membership of eighty-five, but several telegrams and letters were received, making the usual excuses for absence. Those present represented the principal sections of the state. The secretary reported \$636.51 cash on hand and no liabilities. The report was approved. The following applications for membership were favorably received: John W. Kaufmann, of Bethalto; Mauntel, Borgess & Co., of Aviston, and Joseph Hanke, of Trenton.

C. B. Cole, of Chester, introduced the following resolutions: "Resolved, that while the millers of Illinois acknowledge the great service the Millers' National Association has been to the whole milling interest in the past, mainly through the protection which was afforded to us against patent litigation and exorbitant, fictitious patent claims; and while we duly feel that our only safety against these arch enemies of our business consists in the life and continuation of the Millers' National Association; we feel constrained to appeal to the Millers' National Association for a more vigorous policy in combatting other evils which the milling

business has to contend with. We need a check to the tendency of expanding credits to an unreasonable and unsafe extent, we need better protection for our shipments, especially in the export trade, and the Interstate Commerce law has made action by the Millers' National Association feasible. We need a bureau of general information regarding the character of flour dealers; there is no other large industry in the United States but what does furnish its members a list of correspondents to whom sales can only be made with safety for cash in advance. We need a systematic effort to call into life local millers' associations, whose business interests are identical, whose sources of supplies, whose markets and shipping facilities are the same. Such local associations, irrespective of state lines, will do more than any other agency to prevent any ruinous competition to build up a friendly, fraternal spirit among the millers of the country; without it the very foundation stone to a live, successful National Association is lacking."

After an exhaustive discussion the resolutions were adopted seriatim. In conformity with these resolutions a committee was appointed to subdivide the state into different



sections, with the view of having local organizations created in these different sections where there are none now, and to consider these local organizations auxiliaries to the state association. The division of the state was reported as follows in the afternoon session: Southern District—All that part of the state lying south of the main line of the Ohio & Mississippi railroad. Central District—All that part of the state north of the Ohio & Mississippi railway, east of the main line of the Illinois Central and south of the Wabash line between Decatur and Danville. St. Louis District—That part of the state lying north of the Ohio & Mississippi, west of the main line of the Illinois Central and south of the south line of Scott, Morgan and Sangamon counties. Springfield District—All that part of the state north of the St. Louis district, west of the Illinois Central main line and east of the Illinois river. Western District—All that part of the state west of the Illinois river and south of the Rock Island railway line between Rock Island and Peru. Northern District—All that part

of the state north of the western and central districts. The secretary was empowered to change these boundary lines with the advice of those interested to suit the wants of the different localities.

C. H. Seybt was elected to represent the Illinois Millers' State Association as vice-president in the Millers' National Association for the coming year. A. R. McKinney, secretary of the Illinois Millers' Mutual Insurance Company, made a report of the workings of that company, saying that during the last year the business had almost doubled, and that it now has one million dollars at risk and the cash surplus has increased from \$14,500 to \$30,000. Col. W. L. Barnum, secretary of the Millers' National Insurance Company, also made his report, showing the company to be in a very flourishing condition. All the old officers were re-elected: E. C. Kreider, of Jacksonville, president; F. W. Brickey, of Prairie Du Rocher, vice-president; C. H. Seybt, of Highland, secretary and treasurer; Henry Schurmann, of Germantown, assistant secretary.

STEAM ENGINE SERVICE.*

Q. How should an engine be started; and why?

A. Slowly; first warming up the cylinder; the drip cocks being left open, to let out the water of condensation.

Q. What harm might result from starting with drip cocks shut, or shutting them too soon?

A. The cylinder head or the piston head might be smashed through the inelastic water of condensation filling up all the clearance space.

Q. What precaution is it well to adopt with regard to the main steam pipe?

A. To have a blow-off cock right back of the throttle valve, to drain the pipe of the water of condensation, which might otherwise get into the cylinder and cause trouble or accident.

Q. Should the governor speed of a Harris Corliss engine be increased or diminished to speed up an engine?

A. It should be decreased.

Q. "We have just got through having our back cylinder head knocked out by the connecting rod having got too long. How may this be prevented in the future?"

A. You should have a gauge to measure the distance between wrist-pin and crank-pin. Have the brasses so that as one end of the rod is lengthened by being set up, the other will be shortened.

Q. Can a leaky piston make much difference in the steam consumption, or is this only a "bug-aboo"?

A. I have before me the record of a case where I found everything in good condition, except that the piston was leaky, and tested the coal consumption before and after setting out the rings. The coal saving in this instance (the engine was 18"x30", making 100 turns per minute, and cutting off about half-stroke before the piston was packed), was the differ-

*From Steam-Engine Catechism, by Robert Grimshaw, M. E. Price \$1.00. Can be ordered of THE UNITED STATES MILLER.

ence between $4\frac{1}{2}$ gross tons for ten hours engine-work, and $2\frac{1}{2}$ tons; or $2\frac{1}{2}$ tons per day, $12\frac{1}{2}$ tons per week, and about 650 tons per year. At \$3.50 per ton, that comes to \$2,275 a year.

Q. Should two or more engines exhaust into the same pipe?

A. When two or more engines exhaust into the same pipe, there is apt to be excessive back pressure in both, or, at least, the one which would naturally have the most back pressure will be apt to increase that in the other. It should be noted in indicating an engine, whether or not its back pressure is likely to be increased, without any fault of its own, by the exhaust from another engine.

Q. Why is it that better results are sometimes got with throttle only partly open than when with it full wide open?

A. Perhaps the steam is very wet and the throttle dries it. The question can not be properly answered without fuller particulars being given.

Q. What are the effects of high piston speed on the rod-packing?

A. High speed tends to cause rapid wear of the rod-packing, and leakage of the stuffing-box.

Q. What are the effects of high pressures upon the rod-packings?

A. High pressures increase the difficulty of keeping the valve-stem and piston-rod stuffing boxes tight.

Q. Is there any good way to prepare piston rod-packing before putting it in the stuffing-box?

A. Take some pieces of wrought-iron pipe somewhat larger in bore than the stuffing box, and cut packing to fit these; put them, with the packing in them, in the cylinder oil can, for two or three days; take them out and drain them.

Q. If an engine is balanced so that it will run smoothly, will it be safe to put upon the top floor of a building?

A. Not always. The engine may run smoothly, at one speed, and at another speed it may shake the whole building, even though that speed is slower than the one at which it runs smoothly.

Q. How is the best general balance of an engine got?

A. When the counter weight equals one-half the weight of reciprocating parts, increased by that portion of the connecting rod which may be considered as centrifugal in its effect.

Q. Has the steam pressure upon the piston of a steam engine any effect upon the balance of the engine?

A. No.

Q. What is friction?

A. The resistance which two contracting surfaces have to being moved, one over the other.

Q. What are caused by friction?

A. Heating and abrasion, or cutting.

Q. What reduce friction?

A. Lubrication; good fits; proper speed; lessening the pressure between the contacting surfaces.

Q. What is abrasion?

A. Wear, grinding, cutting.

Q. How many kinds of friction are there?

A. Three; sliding, rolling, and fluid.

Q. What kind is the friction of the cross-head on the guides?

A. Sliding.

Q. Then is not that of the journals in their bearings rolling friction?

A. No. The friction of a journal with its bearings is not rolling friction, nor anything like it; it is simply continuous sliding friction.

Q. Where does sliding friction occur?

A. Sliding friction occurs where any one point of either of the rubbing surfaces passes a number of other points upon the other surfaces.

Q. What distinguishes rolling friction?

A. In rolling friction, a number of successive points upon one of the surfaces is presented to a number of successive points on the other. Bearing this in mind, it will readily be seen that where the journal runs in a bearing, or upon it, or under it, (for journals run all three of these ways), each point upon each of the rubbing surfaces passes every other point upon the circle, of the other surfaces.

Q. Which is the greater, sliding or rolling friction?

A. There is much more resisting force where this continuous sliding friction takes place, than where one wheel runs upon another.

FOREIGN NOTES.

THE flour export from Bombay, India, since the establishment of the mills has increased from 24,343 sacks (280 lb.) in 1882-83 to 134,453 sacks in 1886-87. The markets have been Ceylon, Natal, the Mauritius and Persian seaboard. The rice milling industry is also rapidly increasing.

A \$60,000 roller flour mill has just been erected by an English builder at Kingwilliamstown, Cape of Good Hope, South Africa.

PURIFYING river water by electricity is an experiment made by a Frenchman, M. Stoffel. The gist of the process is that the ozone generated by the electrolytic decomposition of the water kills the minute organisms, and oxidizes all organic substances, at the same time precipitating the carbonates in course of dissolution, thus effectually purifying the water. The greatest drawback is the expense of the process, which amounts to one penny per one cubic meter of water, but M. Stoffel thinks that this could be materially reduced by the sale of the by-products obtained in the process.

ACCORDING to Kemp's *Mercantile Gazette*, the failures which took place in the United Kingdom during the year 1887 were 6,265, against 6,446 in 1886—a net decrease of nearly 3 per cent. The separate statistics for England give a striking decrease for the last quarter of 1887, while in Scotland this decrease appears continuous throughout the year, and in Ireland the totals for 1886 and 1887 are nearly alike.

MESSRS. CHAMBERLAIN, POLE & Co., flour merchants, of Bristol, writing to the *National Association of Master Bakers and Confectioners' Quarterly Trade Review*, say that "Some reasons may now be given why the imports of flour from America may be expected to increase rather than diminish in the future. The rapid spread of mills and elevators throughout the States; the exceptional water power advantages and facilities for handling; the favorable results attending the treatment of one kind of wheat alone, instead of milling

together hard and soft kinds; again, the low through rates afforded by the carrying companies for flour in bags from the milling centers in the West, and the fact that such freight is only paid on the valuable portion of the grain. The time is probably not distant when no wheat will be shipped to us from the Atlantic seaboard, and the age given during transit to the manufactured article adds a sensible increment to its value. The larger English mills, which may be expected to survive, will be occupied with home-grown and Indian wheat, and irregular additions of grain from California, South America, Russia and Australia. There is very little private baking done in this district, and the consumption of whole-meal bread is quite small. The sale of Hungarian flour has not increased as might have been expected, owing probably to the success and relative cheapness of American patents, though the unique and mellow characteristics of Hungarian flour continue to find favor with confectioners."

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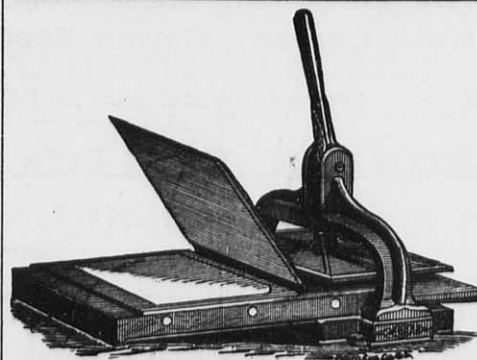
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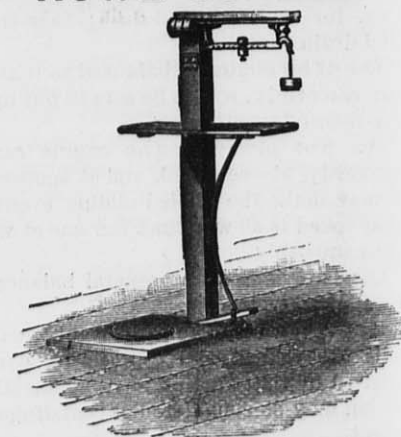
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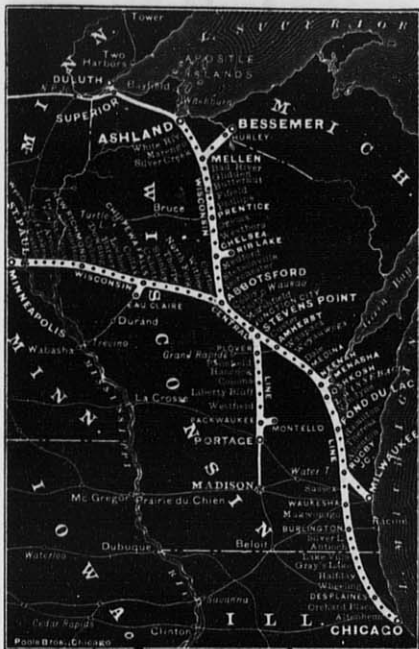
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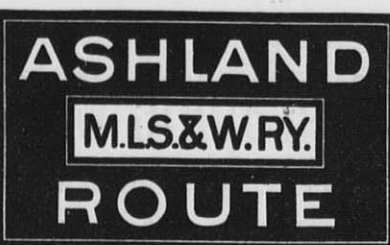
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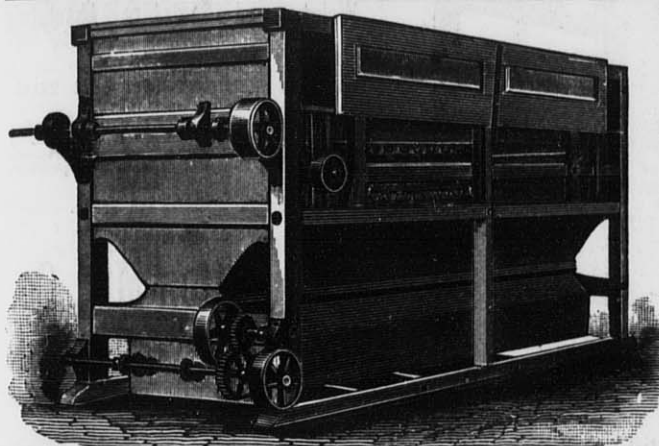
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8th, MILL BRANDS—Do you consider it feasible for all flour to be sold under mill brands only? And in your opinion is it not only desirable but important that every mill owner should refuse to sell his flour either unbranded or under a special brand, which does not show where or by whom manufactured? And to what extent would you be willing to aid in bringing about such reform?

9th, REPORTING—Are you in favor of reporting to the secretary of the Association with full particulars authenticated cases of chicanery on the part of flour buyers, in making unreasonable and unwarranted claims for reductions from the invoice rendered?

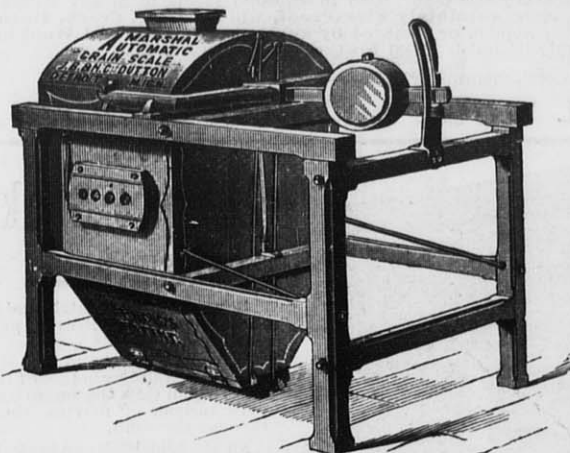
10th, FINALLY—A full and explicit report is requested on all the foregoing subjects, in addition to which any other subject or complaint not referred to in the interrogatories pertaining to the domestic flour trade that come under your observations, the committee desire it should be reported, with the answers. The interrogatories, with the replies thereto, received from all parts of the country, will be submitted to a special committee, whose duty it will be to work out uniform rules for the trade, based upon the information furnished; this committee, representing a prominent mill owner from each milling state, to report to the convention for final action. After ratification by the convention, a united effort will be made to have the various boards of trade and other commercial bodies of the country adopt them. Please state in your reply if your firm and the millers in your vicinity will be willing not only to adopt such rules, but co-operate in carrying them into effect.

FOREIGN FLOUR TRADE.

The Millers' National Association through its executive committee are willing to undertake any reform for the general good of its members, looking toward the correction of abuses in the export trade, whenever the exporting millers of this country have come to an understanding what these abuses are and the best method to pursue in order to correct them. In the opinion of the executive committee, the larger portion of the evils complained of exist in the form of bill of lading now in general use, which makes the Transportation company liable only for the rate of freight, but exempts them from every other liability. To correct these evils will require the co-operation of the foreign receivers, the bill of lading being in most cases a creation of the foreign Steam Ship company, and so long as the receivers are content to accept the outrageous conditions, both the exporters and receivers must submit.

The committee therefore, desires to know from the exporters in what manner or form they will sustain the association in its effort to correct the abuses and bring about a reform. In order to secure an expression from the exporters and also from the foreign receivers, the following resolutions were adopted:

J. B. DUTTON IMPROVED AUTOMATIC GRAIN, FLOUR AND FEED



SCALE

Weights and Registers Absolutely
— Correct. —

MACHINES SENT ON THIRTY DAYS TRIAL

Our Automatic Register is the most perfect and simple Register in use. It is especially adapted for use by Flour Packers. It records up to 1,000,000, when it repeats the operation automatically.

Send for Circulars and Prices.

— THE

J. B. Dutton Mfg. Co.

22 and 24 WOODWARD AVENUE,

DETROIT, MICHIGAN, U. S. A.

[Please mention this paper when you write.]

Resolved, That the secretary be and is hereby instructed to correspond with the principal exporting centres, embodying the views of the committee, requesting the various localities to call a meeting of the exporting millers in their vicinity for a discussion of the subject, and to give expression to their views in regard to the entire question of abuses in the export trade and their remedy, and principally, to what extent they will sustain the association in carrying out their wishes.

Resolved, That the secretary be and is hereby instructed to enter into correspondence with representative bodies in the flour trade at London, Glasgow and Liverpool, with reference to sending delegates from each of these ports to attend the convention at Buffalo, with a view to concert of action in an undertaking to correct some of the abuses now existing in connection with the foreign flour trade.

JUTE BAGS.

The fact existing, that the larger portion of the jute cloth imported into this country, is again exported as a covering for our productions, such as flour, cotton, etc., and the further fact, that the expense attending collection of the duty, 90 per cent. of which must be refunded to the exporter on all this cloth exported in the manner above described, leaving it an open question if the government is not actually doing a losing business so far as collecting the duty on jute cloth is concerned (none of consequence being woven in this country), it is therefore

Resolved, That the secretary be and is hereby instructed to present to congress by correspondence with its members the facts as above set forth, requesting that an effort be made to have the duty on jute cloth abolished.

MEMBERSHIP.

WHEREAS, An erroneous impression seeming to prevail that the Millers' National Association is averse to receiving new members, therefore be it

Resolved, That on the contrary, the executive committee appreciating the fact that in "numbers there is strength," most cordially invites millers to join the association at the earliest moment. Where no state association exists in accord with the National association, application for membership be made direct to the secretary of the National Association. The committee desires that in view of what the association has accomplished in the past for the benefit and protection of all millers, and also in view of the value of concentrated action in the future to deal with and correct abuses which exist in the trade, every merchant miller in the country should become a member and help to shape its policy.

MILLING PRESS.

WHEREAS, Some members of the milling press being under the impression that the association favors one milling paper to the detriment of other journals of the trade, therefore be it

Resolved, That the secretary be and is hereby instructed to mail simultaneously to all such milling papers as desire it the full reports of the meetings of the Millers National Association, and its committees intended for publication, and that all meetings open to one member of the milling press shall be open to all other members of the press.

BUFFALO CONVENTION.

The secretary was instructed to correspond with a number of gentlemen, and extend to them an invitation to address the convention upon topics of general interest to the trade, and report at the next meeting of the committee the result of such correspondence.

There being no further business the meeting adjourned.

Respectfully,

S. H. SEAMANS, Secy.

GODEY'S LADY'S BOOK FOR 1888.

Sample Copy Fifteen Cents.

\$2 a Year ALWAYS IN ADVANCE.

A handsome Engraving to every Subscriber.

In Club with this paper, GODEY'S and the UNITED STATES MILLER, price \$2.50, which should be sent to the office of the United States Miller, Milwaukee, Wis.

MILL FOR SALE.

For Sale: One-half interest in a first-class 125-barrel Roller Mill. Has the latest improvements and doing a class of work that cannot be excelled in the State. Mill is situated in Southern Illinois, on Wabash Railroad, and in a good wheat country. Party desiring to sell his interest is obliged to go to Europe. The complete mill will be sold if desired. Address for full particulars, H. P., care Garden City Mill Furnishing Co., Chicago, Ill.



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Millers say so.

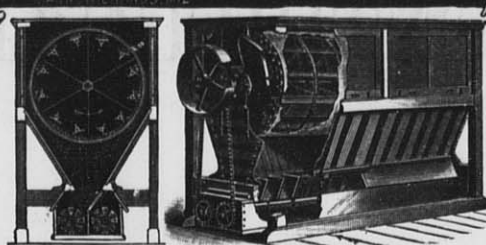
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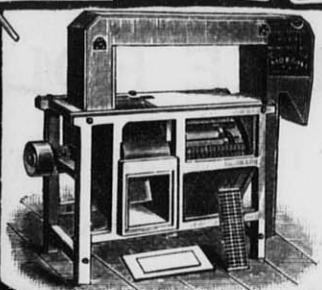
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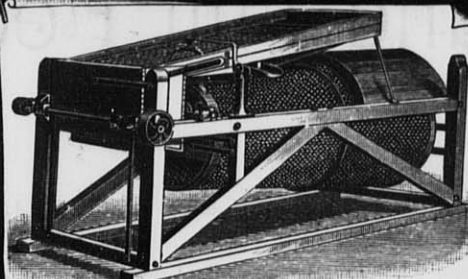
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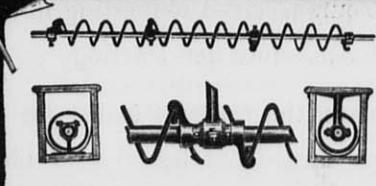
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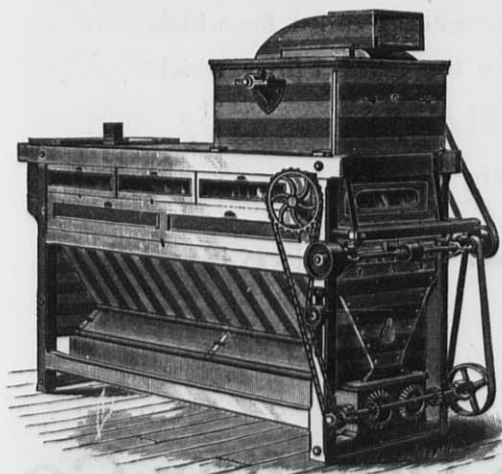


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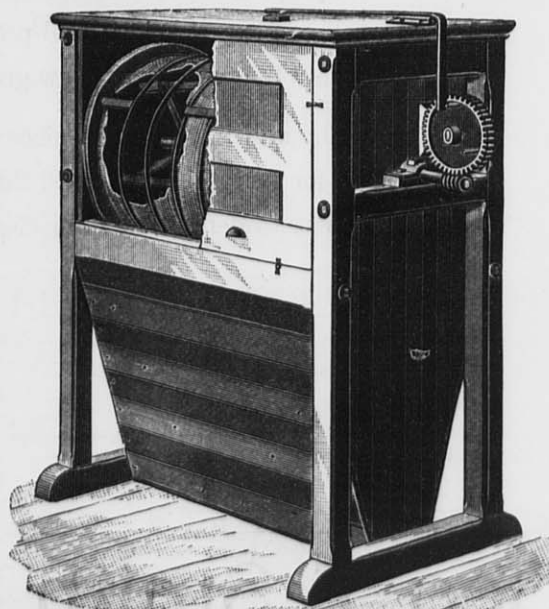
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These Machines
CANNOT BE EXCELLED
For Perfect Work.

Careful Millers will do well
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The Superlative Bran Duster and Disintegrator.



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— OFFICE OF —

LINDEKE ROLLER MILLS,

WM. LINDEKE, *Proprietor.*

— DEALER IN —

Flour, Grain and Mill Feed.

St. Paul, Minn., November 25th, 1887.

The Geo. T. Smith Middlings Purifier Co., Jackson, Mich.:

GENTLEMEN—Yours received requesting me to write you in detail as to the working of my mill you built for me since first starting.

As you are aware, the contract called for a 150 bbl. mill per 24 hours, or 6 bbls. per hour. It has never turned out less than 7 bbls. per hour, and can easily be run to 200 per day.

The mill runs very light, requiring but little power. My straight flour with low grade out (being less than 5 per cent.) has in every case proved to be equal to the best patents made in this State. Yield is 4 bushels 24½ lbs. uncleaned wheat per barrel.

My straight flour has been tested a great number of times by different parties, as well as myself and expert bakers, and proves to be better than the average patents. We have never made but the two grades—low grade and straight.

The mill is a beautiful piece of workmanship, better than my contract called for, which called for everything we could think of, and I paid you more than the contract price, which should be evidence that I am more than pleased with the mill.

Very truly yours,

WM. LINDEKE.

Geo. T. Smith Middlings Purifier Co.

Canadian Shops, Stratford, Ont.

JACKSON, MICH.